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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/730,918

12/10/2003

Dwayne A. Tieszen

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EXAMINER

KEANEY, ELIZABETH MARIE

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/730,918

Applicant(s)

TIESZEN, DWAYNE A.

Examiner

Elizabeth Keane

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/1/05.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I in the reply filed on 1 December 2005 is acknowledged. The traversal is on the ground(s) that search and examination of the entire application could be accomplished without a serious burden. This is not found persuasive because all groups are classified in separate classes and subclasses. The search of Group II and Group III is not required for Group I. Therefore a serious burden on the Examiner exists.

The requirement is still deemed proper and is therefore made FINAL.

Claims 11-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Groups II and III, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 1 December 2005.

### ***Specification***

The disclosure is objected to because of the following informalities:

- Page 15, line 10: "2002/0158585"; should be --2002/0158565--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1,2 and 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Hohn et al. (US Patent 6,245,259; hereinafter Hohn).**

Re claim 1: Hohn discloses, in figure 4 and throughout the disclosure, a white light LED comprising:

- a semiconductor body (1) formed of a semiconductor layer sequence emitting electromagnetic radiation in a blue spectral range (column 9, line 38) when a forward bias is applied thereto;
- a luminous material (5) encompassing the semiconductor body, the luminous material being photoexcited by the electromagnetic radiation emission of the semiconductor body; and
- a chromaticity coordinate-converting casting compound (10) encompassing at least part of the semiconductor body and the luminous material;
  - wherein the LED device has a resultant white light output (column 9, line 49).

Re claim 2: Hohn discloses the casting compound comprising a transparent epoxy resin having a tint of predetermined color disposed in the resin (column 9, lines 28-35).

Re claim 4: Hohn discloses the semiconductor body to be a blue light emitting semiconductor body (column 9, line 38).

Re claim 5: Hohn discloses the luminous material being a phosphor exhibiting a yellow luminescence when photoexcited by the electromagnetic radiation emission of the semiconductor body (column 8, line 18).

Re claim 6: Hohn discloses the luminous material is a Ce-doped phosphor (column 8, line 18).

Re claim 7: Hohn discloses the blue light emitting semiconductor body and the luminous material emitting an output wavelength in the blue-yellow spectrum (column 9, line 48-49).

***Claim Rejections - 35 USC § 103***

**Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hohn.**

Hohn teaches all the limitations as shown above, including a chromaticity coordinate-converting casting compound comprising an epoxy resin that is usable in the

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LED technology (column 9, lines 18-20), organic pigment mixed with the casting compound (column 9, lines 28-35) and when using a blue emitting semiconductor some radiation emitted from the semiconductor is converted into a longer-wavelength range to produce white light emission (column 9, lines 43-45).

However, Hohn fails to explicitly teach the casting compound to be of polycarbonate material and the organic pigment converts a wavelength within the blue wavelength range into a relatively longer wavelength.

One of ordinary skill in the art would recognize that polycarbonate resin is a well-known material used for a housing envelope within the LED technology and the desire for any residual blue emission from the semiconductor not converted by the luminous material to be converted by the organic pigment within the housing to produce a brighter white light emission.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a polycarbonate compatible tint that converts a wavelength falling within a blue wavelength range into a relatively longer wavelength within the device of Hohn because it optimizes the emission characteristic of the device, thereby producing the desired color temperature for a white light LED (column 9, lines 28-32).

**Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohn as applied to claim 1 above, and further in view of Setlur et al. (US Patent Application Publication 2002/0158565; hereinafter Setlur).**

Hohn teaches all the limitations as shown above.

However, Hohn is silent as to the exact color temperature of the white light emitted by the device.

Setlur discloses an LED device wherein the white light emitted meets the following criteria: an approximate CCT between 2,300 and 3,300 K (Figure 9, lines 9-12), an approximate chromaticity coordinate of X-.466 and Y-.442 (figure 7) and a nominal CRI of 85 (Figure 9, lines 11-14).

Setlur teaches the CCT to be 3,500K. The Examiner notes that this has been interpreted to be approximately 3,300K.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the pigments of Hohn to produce a white light as defined by Setlur in order to produce the desired color temperature.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Keaney whose telephone number is (571)272-2489. The examiner can normally be reached on Monday, Tuesday, Thursday, Friday 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571)272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Elizabeth Keaney  
Examiner  
Art Unit 2882



EDWARD J. GLICK  
SUPERVISORY PATENT EXAMINER